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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,235	02/24/2004	Jerome Bayle	612.43484X00	1580
20457 7590 06/17/2008 ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-3873				
EXAMINER				
MERKLING, MATTHEW J				
ART UNIT		PAPER NUMBER		
1795				
MAIL DATE		DELIVERY MODE		
06/17/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/784,235

**Applicant(s)**

BAYLE ET AL.

**Examiner**

MATTHEW J. MERKLING

**Art Unit**

1795

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 April 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 and 20-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 20-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-9 and 20-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Ishii et al. (US 4,344,373).

**Regarding claim 1**, Ishii discloses a facility for producing synthesis gas from a solid feedstock including organic matter (see abstract),

said facility including means for circulating a heat-carrying solid providing at least some of the heat necessary for such production (such as the heat carrying sand, discussed in the abstract) ,

a zone Z1 (pyrolysis reactor, 11) including pyrolysis and gasification means,

a zone Z2 (upper section of pyrolysis reactor, including conduit 21 extending down from pyrolysis reactor) including separation means,

a zone Z3 (reservoir, 22) including gasification means (for example, it partially combusts char sent from the pyrolysis reactor, col. 4 lines 3-6),

a zone Z4 (bottom section of vessel 19, including conduit 28 extending downward from vessel 19) including separation means, and

a zone Z5 (vessel 19) including combustion means (introduction of air, via compressor 45, and fuel, via conduit 24) ,

characterized in that zone Z1 has means for pyrolysis and gasification of said feedstock in a transported fluidized bed (see col. 3 lines 38-40, where a fluidized pyrolysis bed is discussed), in that zone Z2 has means for at least partial separation of the effluents from zone Z 1 into an essentially gaseous phase and into an essentially solid phase (see top of pyrolysis reactor where gas is led off to separator 18, and solids are led off to zone Z3 (as discussed above) via conduit 21), in that zone Z3 (22) is supplied at least in part with said essentially solid phase (via conduit 21) and includes dense fluidized bed gasification means for (via compressor 23) gasification of said essentially solid phase (as discussed above, partial combustion of the char received from pyrolysis reactor, col. 4 lines 3-6), in that zone Z4 (bottom portion of vessel 19) includes means for separating the effluents coming from zone Z3 into an essentially gaseous phase (which is led off to separator 29) and into an essentially solid phase (which is sent through conduit 28), and in that zone Z5 includes means for combusting the essentially solid phase coming from zone Z3 (char coming from 'gasifier' 22 is completely combusted in combustion zone 19, see col. 4 lines 3-6) and means for transferring the heat-carrying solid coming from said combustion into zone Z1 (via conduit 28).

**Regarding claim 2**, as discussed above, Ishii discloses a means for combusting the solid phase coming from zone Z4 (char coming from 'gasifier' 22 is completely combusted in combustion zone 19, see col. 4 lines 3-6), and also discloses a means (41, 42) for transferring solids to zone Z5 (combustor, 19).

**Regarding claim 3**, Ishii further discloses said pyrolysis/gasification zone Z1 (pyrolysis reactor, 11) includes means for supplying a reactive carrier gas (via compressor 43), means for introducing said feedstock (feeder, 16, col. 3 lines 49-51), and means for injecting the heat-carrying solid (via conduit 28, col. 4 lines 23-28).

**Regarding claim 4**, Ishii further discloses said combustion zone Z5 has means for introducing an oxidizing gas (via compressor 45) and means for transferring the heat-carrying solid coming from said combustion, to zone Z1 (via conduit 28).

**Regarding claim 5**, Ishii further discloses means for transferring the essentially gaseous phase coming from zone Z2 (upper portion of pyrolyzer 11), to separation zone Z4 (bottom portion of combustor 19, via separator 18).

**Regarding claims 6 and 23**, Ishii further discloses said zone Z5 includes:

- a first zone Z5 (middle section of combustor 19) including transported fluidized bed combustion means (via air compressor 45) for combusting part of the essentially solid phase coming from zone Z3 and/or Z4 (coming from separation 18, separator 40, or conduit 24),
- a zone Z6 for separating the gaseous phase (separator 29) and the essentially solid phase coming from said combustion (gas is led off to separator 30, and solids are led off to hopper 31, see Fig. 3),
- a zone Z7 including dense fluidized bed combustion means (such as combustion in hopper 31) for combusting the essentially solid phase coming from zone Z6 and means for transferring the heat-carrying solid coming from said combustion, to zone Z1 (via conduit 28).

**Regarding claim 7**, Ishii further discloses zone Z3 includes reactive carrier gas supply means (via pump 23).

**Regarding claim 8**, Ishii further discloses zone Z3 includes means for introducing the feedstock (via conduit 21).

**Regarding claim 9**, Ishii further discloses said zone Z5 (combustor 19) includes means for supplying an additional fuel (for example, through feeder 20).

**Regarding claim 20**, Ishii further discloses 20 said pyrolysis/gasification zone Z1 includes means for supplying a reactive carrier gas (via fan 43), means for introducing said feedstock (via hopper 16), and means for injecting the heat-carrying solid (via hopper 16).

**Regarding claim 21**, Ishii further discloses said combustion zone Z5 has means for introducing an oxidizing gas (air, via fan 23) and means for transferring the heat-carrying solid coming from said combustion, to zone Z1 (solids can be transferred to zone Z1 (11) via transfer means 41, 42 and 28).

**Regarding claim 22**, Ishii further discloses means for transferring the essentially gaseous phase coming from zone Z2, to separation zone Z4 (such as through conduit 24 and combustor 19).

**Regarding claim 24**, Ishii further discloses zone Z3 includes reactive carrier gas supply means (via fan 23).

**Regarding claim 25**, Ishii further discloses zone Z3 includes means for introducing the feedstock (via conduits 21 or 24, both of which can feed solid feedstock to Z3 (22)).

**Regarding claim 26**, Ishii further discloses said zone Z5 (19) includes means for supplying an additional fuel via conduits  $\beta$  and 49 (col. 5 lines 16-29).

Regarding limitations recited in claims 1-9 and 20-26 which are directed to a manner of operating disclosed system, neither the manner of operating a disclosed device nor material or article worked upon further limit an apparatus claim. Said limitations do not differentiate apparatus claims from prior art. See MPEP §2114 and 2115. Further, process limitations do not have a patentable weight in an apparatus claim. See *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969) that states “Expressions relating the apparatus to contents thereof and to an intended operation are of no significance in determining patentability of the apparatus claim.

### ***Response to Arguments***

3. Applicant's arguments filed 4/17/08 have been fully considered but they are not persuasive.

On page 7, Applicant states that Ishii fails to disclose a zone (the zone Z5 of the invention) comprising means for combusting the solid phase coming from the regenerator (zone Z3) and means for transferring the heat carrying solid coming from the combustion into the reactor. The examiner respectfully disagrees with this argument. In the Office Action (12/17/07), the examiner pointed out a zone Z5 (vessel 19) including combustion means (introduction of air, via compressor 45, and fuel, via conduit 24), as well as a means for transferring the heat-carrying solid coming from the combustion into zone Z1 (via conduit 28).

***Conclusion***

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW J. MERKLING whose telephone number is (571)272-9813. The examiner can normally be reached on M-F 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexa Neckel can be reached on (571) 272-1446. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. J. M./  
Examiner, Art Unit 1795

/Alexa D. Neckel/  
Supervisory Patent Examiner, Art Unit 1795